

## CLAIMS

1. A magneto-optical head comprising:
  - a focus lens for forming a light spot on a disk;
  - 5 a coil for magnetic field generation, the coil being arranged between the lens and the disk and surrounding an optical center of the lens; and
  - an annular heat sink arranged around the coil;
  - wherein a distance between an outer circumference of the
  - 10 coil and an inner circumference of the heat sink is 70-100 $\mu$ m.
2. The magneto-optical head according to claim 1, further comprising an annular magnetic member arranged between the lens and the coil to surround the optical center of the lens.
- 15 3. The magneto-optical head according to claim 2, further comprising a glass substrate and a transparent dielectric layer, wherein the glass substrate comprises a first surface to which the lens is attached and a second surface opposite to the first
- 20 surface, the dielectric layer being formed on the second surface to embed the magnetic member, the coil and the heat sink.
4. The magneto-optical head according to claim 3, further
- 25 comprising an additional lens arranged farther from the disk than the focus lens is, wherein the additional lens has an optical center coinciding with the optical center of the focus

lens, the additional lens and the focus lens cooperating with each other to provide an integrated numerical aperture of 0.8-0.9, and wherein the coil has an outer diameter of no greater than 300 $\mu$ m.

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5. A magneto-optical disk drive comprising:

a lens for forming a light spot on a disk of a surface-recording type;

a coil for magnetic field generation, the coil being  
10 arranged between the lens and the disk and surrounding an optical center of the lens; and

an annular heat sink arranged around the coil;

wherein a distance between an outer circumference of the coil and an inner circumference of the heat sink is 70-100 $\mu$ m,  
15 and wherein a distance between a surface of the disk and the coil is 3-50 $\mu$ m.